SL-494

Total No. of Pages : 2

Seat No.	

B.E. (Comp. Sci. and Engg.) (Semester - VIII) (Pre-Revised) (Old) Examination, April - 2017
REAL-TIME OPERATING SYSTEM
Sub. Code : 49449

Day and Date : Saturday, 29 - 04 - 2017 **Total Marks : 100**

Time : 2.00 p.m. to 5.00 p.m.

Instructions : 1) **Solve Any Three Questions from each section.**
2) **Figures to right indicate full marks.**

SECTION - I

Q1) a) What is IPC? How it is achieved in real time operating system. **[8]**

b) Define real-time system. Explain real time system design issues. **[8]**

Q2) a) Explain various memory technologies. **[8]**

b) With block diagram, explain how devices are interfaced to the CPU via interrupts. Comment on watchdog timers. **[8]**

Q3) a) What is role of kernel in OS? Draw and Explain functionality and associated taxonomy of various layers of OS. **[8]**

b) What is priority inversion problem? How it is solved? **[8]**

Q4) Write a note on (Any Three): **[18]**

a) Latching.

b) PAL/PLA.

c) RISC vs CISC.

d) Test-and-Set Instruction.

P.T.O.

SECTION - II

Q5) a) Explain Requirements-Engineering Process with suitable diagram. [8]

b) Explain Four way Intersection Traffic light control system problem, How design document is created? [8]

Q6) a) How structured analysis is done using structured design State problem in real-time applications of structured analysis. [8]

b) Explain Function points and Features points metrics in detail. State its advantages. [8]

Q7) a) Explain Semaphore & Mutex management in RTLinux. [8]

b) Explain cost estimation using COCOMO II model. [8]

Q8) Write a note on (Any Three): [18]

a) State Charts.

b) Lines of code.

c) Petri nets.

d) RTLinux.